

**NASA Occupational Health
Evaluation Tool Requirements: Health Physics**

| Section 1: Policy and Program | | |
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| 1. | Does written policy clearly define the responsibilities and activities needed for program implementation? | 1) 10 CFR 20.1101(a) 2) NPR 1800.1, §4.6.2a 3) ANSI Z136.1 §5.1 4) IEEE/ANSI C95.7 §1.3; 4.1 5) SOW §3.B; 4.B |
| 2. | Are there provisions for review and evaluation of the radiation safety program? | 1) 10 CFR 20.1101(c); 20.2102(2); 21.21(a) 2) NPR 1800.1, §4.6.2a 3) ANSI Z136.1 §1.3.2.3; §1.3.2.8; §5.1(1) 4) IEEE/ANSI C95.7 §4.6; 4.1.2.1(1) 5) ANSI/AIHA Z10-2005 §6.3 6) SOW §3.B; 4.C |
| 3. | Does the Center have a Radiation Safety Committee? | 1) 29 CFR 1910.1096 2) 10 CFR 33.13(c)(1); 33.13(c)(3)(iii) 3) ANSI Z136.1 §5.1(1); §D3 4) IEEE/ANSI C95.7 §3.1.36; Table 3; 4.1.5 5) SOW §4.C |
| 4. | Do other recent inspection findings indicate compliance with regulations? | 1) NPD 1800.2A §(5)(d) 2) 10 CFR 19.11(a)(4) 3) 29 CFR 1910.97 4) 21 CFR 1020.30, 31, and 40 5) ANSI Z136.1; Z136.6 6) IEEE Std.C95.1-1999 7) IEEE/ANSI C95.7 §4.6.2; 4.1.2.1(1) 8) SOW 3.B; 4B |

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| 5. | Have deficiencies from previous inspections been corrected? | 1) NPD 1800.2A §(5)(d) 2) ANSI Z136.1 §D1.6 3) IEEE/ANSI C95.7 §4.1.3 4) 21 CFR 1020.30, 31, and 40 5) 10 CFR 19.11(e) |
| Staff | | |
| 6. | Is there a full-time manager of the radiation safety program? | 1) NPR 1800.1, §4.6.3.c. 2) 10 CFR 34.42 3) ANSI Z136.1 §1.3.1 4) IEEE/ANSI C95.7 §1.3; 4.1.2.1 5) SOW §4.C |
| 7. | Is the manager of the radiation safety program for the center a Health Physicist? | 1) NPR 1800.1, §2.1.3.1a 2) ANSI Z136.1 §D1.1 3) IEEE/ANSI C95.7 §1.3; 3.1.38; 4.1.2.1 4) SOW §4.D |
| 8. | Does the radiation safety program manager attend or participate in professional development meetings or societies? | 1) NPR 1800.1, §2.1.3.1b; 4.2.2.b.; 4.3.2.a. 2) ANSI Z136.1 §3.1; §5.2(2);5.3; §5.3.2.1; Table D1 3) IEEE/ANSI C95.7 §A.2 |
| 9. | Does the Center finance meeting expenses for the manager of the radiation safety program? | 1) NPR 1800.1, §2.1.3.2a 2) 29 CFR 1960.6(c) |
| 10. | Is the Center's radiation safety support staff given the opportunity to attend or participate in professional development meetings or societies? | 1) NPR 1800.1, §2.1.3.3d & e 2) ANSI Z136.1 §3.1; §5.3.2.1; Table D1 3) IEEE/ANSI C95.7 §A.2 4) SOW §4.D |
| 11. | Does the Center finance meeting expenses for radiation safety support personnel? | 1) NPR 1800.1, §2.1.3.1b 2) 29 CFR 1960.6(c) 3) SOW §4.D |

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| 12. | Is a reference library available to Center radiation safety personnel? | <ul style="list-style-type: none"> 1) 29 CFR 1960.7(c)(6) 2) NPD 1820.1B 5 e 3) NPR 1800.1 §2.1.3.1(d); 4.2.2 (b); 4.3.2 (a) |
| Facilities | | |
| 13. | Is there adequate floor space for: assigned personnel, equipment, records, and materials and waste storage? | <ul style="list-style-type: none"> 1) 29 CFR 1960.6(b)(2) & 1960.7(c)(3) 2) NPR 1800.1 4.2.2 b ; 4.3.2 a 3) ANSI Z10 3.1.3B 4) SOW §3.B; 4.C 5) 10 CFR 20.1101(b); 30.33(a)(2); 30.35(g) 6) 29 CFR 1960.6(c); 1910.1020(d)(1)(i) 7) ANSI Z136.1 §D1.5, E.4-5 |
| 14. | Are there operations on Center that require facility radiation safety measures, such as: X-ray, gamma ray, LASER, RFR, etc. that required facility radiation safety measures? | <ul style="list-style-type: none"> 1) 10 CFR 19, 20, 34, and 36 2) 29 CFR 1910.97 3) 29 CFR 1926.54 4) 29 CFR 1910.1096(e)(3)(ii) 5) NPR 8715.3 §6.16 6) ANSI 43.3-1993 7) ANSI/HPS N43.5-2005 8) ANSI Z136.1-136.6 9) IEEE/ANSI C95.7 10) SOW §3.B; 4.C |
| 15. | Is there a specially designated area for the receipt and checking of radioactive material? | <ul style="list-style-type: none"> 1) 10 CFR 20.1906 2) SOW §4.C |
| 16. | Does receipt area have adequate monitoring equipment to conduct inspections? | <ul style="list-style-type: none"> 1) 10 CFR 20.1301 2) 20 CFR 20.1906(b) 3) SOW §4.C |

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| 17. | Does Center activity require use of hood (s) or glove boxes for radioactive material work? | 1) 10 CFR 20.1701 2) 29 CFR 1910.1450(e)(3)(viii)(B) 3) SOW §3.B; |
| 18. | Is airflow and shielding on hoods and/or glove boxes monitored periodically? | 1) 10 CFR 20.1701 2) SOW §3.B; 4.C |
| Equipment | | |
| 19. | Are dosimeters available to monitor personnel ionizing radiation exposure? | 1) 29 CFR 1910.1096(d)(2) 2) SOW §4.C |
| 20. | Are counters used to monitor personnel contamination? | 1) 29 CFR 1910.1096(d)(2) 2) SOW §4.C |
| 21. | Are radiation meters available for area monitoring? | 1) 10 CFR 20.1501 2) SOW §4.C |
| 22. | Are contamination survey meters available for personnel monitoring? | 1) 29 CFR 1910.1096 (d)(2) 2) SOW §4.C |
| 23. | Are there ionizing radiation air sampling devices? | 1) 10 CFR 20.1501 2) NRC Regulatory Guide 8.25 3) SOW §3.B & C; 4.C |
| 24. | Are there personnel ionizing radiation air sampling devices? | 1) 29 CFR 1910.1096(d)(2) 2) SOW §4.C |
| 25. | Are laboratory counting systems available for evaluating radioactive samples? | 1) 10 CFR 20.1501 2) SOW §4.C |
| 26. | Are there any field-portable radionuclide analyzers? | 1) SOW §4.C |
| 27. | Are decontamination supplies available for radioactive material? | 2) ANSI/HPS 13.12-1999 3) 29 CFR 1910.1450(e)(3)(viii)(D) |
| Training | | |

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| 28. | Is radiation safety training required for users of radioactive materials, radiation producing machines, RF radiation emitters, LASER radiation emitters, and/or UV/IR radiation emitters? | <ul style="list-style-type: none"> 1) 10 CFR 19.12 2) NPR 8715.3 §4.4.2; 6.16.5 3) 29 CFR 1926.54 4) 29 CFR 1910.1096(i)(2) 5) ANSI Z136.1 §5; §D6 6) ANSI/ASSE Z490.1-2001 7) ANSI/HPS N13.36-2001 8) ANSI/ASSE Z490.1-2001 9) NRC Regulatory Guide 8.29 and 8.13 10) IEEE/ANSI C95.7 §Annex A 11) IEEE Std.C95.1-1999 §4.1.1(a)(2) |
| 29. | Is training accomplished by classroom instruction, videotape, one-on-one, and/or computer based? | <ul style="list-style-type: none"> 1) ANSI/ASSE Z490.1-2001 |
| 30. | Is training conducted by Center radiation staff, user organizational supervisors, and/or outside sources? | <ul style="list-style-type: none"> 1) ANSI Z136.1 §5.3.1-2 2) ANSI/ASSE Z490.1-2001 |
| 31. | Is radiation safety training that is given to employees documented? | <ul style="list-style-type: none"> 1) STD 01-05-001-PUB 8-1.7 2) ANSI/HPS N13.36-2001 3) ANSI/ASSE Z490.1-2001 |
| 32. | Does the radiation safety training given to employees cover state, federal, and Center regulations, use of monitoring equipment, procedures for radiation work, wearing of protective clothing and devices, the meaning and requirements for radiation, signs and symbols used at work, and/or potentially required emergency actions? | <ul style="list-style-type: none"> 1) 10 CFR 19.12; 30.32 (i)(3)(x) 2) 21 CFR 1040 3) NRC Regulatory Guides 8.13 and 8.29 4) ANSI Z136.1 §5.3.2.2; §D6; §Table D1 5) ANSI/ASSE Z490.1-2001 |
| 33. | Is radiation training provided periodically? | <ul style="list-style-type: none"> 1) 10 CFR 19.12 2) 29 CFR 1926.54 3) 29 CFR 1910.1096(i)(2); 1910.1450(f)(2) 4) ANSI Z136.1 §D6.3 5) ANSI/ASSE Z490.1-2001 |
| Procedures | | |

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| 34. | Does the Center have written radiation use/authorization procedures for work involving radiation emitters? | 1) 29 CFR 1910.1096(i)(3) 2) 10 CFR 20.1101(a) |
| 35. | Are Use/Authorization procedures approved by management members who are specified in Center policy? | 1) NPR 1800.1, §4.6.3(c) 2) ANSI Z136.1 §5.3. |
| 36. | Do radiation Use/authorization procedures address: authorized radiation emitters and approved use/storage locations: applicable operating procedures/licenses, and/or medical examination requirements? | 1) 10 CFR 20.1801&1802 2) 10 CFR 36.53 3) ANSI Z136.1 §D1.8 |
| 37. | Do radiation Use/authorization procedures identify authorized use personnel? | 1) 29 CFR 1910.1096(a)(3) 2) ANSI Z136.6 § 4.4; ANSI Z136.1 §4.4.4 |
| 38. | Do radiation Use/authorization procedures provide protection guidance and hazard evaluations? | 1) 10 CFR 20.1301 2) NPR 8715.3 §6.16; 3) ANSI Z136.1 §3.1; 3.4 – 4.1.1.3; 4.4.1; D4.3; 7 4) SOW §4.C |
| 39. | Do radiation Use/authorization procedures address control provisions for radiation control areas (Ionizing/non-ionizing), operational and emergency notification posting and labeling, inventory/accountability, radiation protection devices (interlock/light/audible warning systems), required utilization logs, dosimetry, and/or source leak test equipment? | 1) 29 CFR 1910.1096 2) 10 CFR 20.2102 3) 10 CFR 20.1902 4) NPR 8715.3 §6.16 5) ANSI Z136.1 §Tables 10 and 11a-c; Appendix C1-3 & F1-3.3 6) ANSI N43.3-1993 |
| 40. | Does Center implementing guidance include: how to request use of radiation emitters on Center; an outline of what information is needed to process a use authorization request; definition of duties for the Center Radiation Safety Officer and support staff; notification requirements pertaining to radioactive material shipping and receiving; notification/approval requirements to modify operational procedures, make changes to radiation emitters, and personnel; who to notify in the event of a radiation emitter emergency or personnel overexposure? | 1) NPR 1800.1, §4.6.2(a) 2) NPR 8715.3 §6.16 3) ANSI Z136.1 §4; D1; E3 4) 49 CFR 172 Subpart H 5) 10 CFR 20.1906 and §71.5 |

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| 41. | Does the Center radiation safety program have management plans to cover schedules and methods used to survey facilities; evaluation of survey results for possible trend detection and/or corrective action; operational check and calibration procedures for survey and counting equipment; detailed methods for decontamination of personnel; collection, organization, and retention of radiation protection records; safety analysis methodology to establish hazards involved in new radiation operations; and notification and response procedures for emergencies? | <ul style="list-style-type: none"> 1) NPR 1800.1, §4.6.2(a) 2) 21 CFR 1000.55 3) IEEE Std.C95.3-2002 §4.2.1.2 4) ANSI Z136.1 §4.2; 5.2(4) 5) ANSI N323A-1997 6) ANSI/HPS N13.6-1999 7) ANSI N13.49-2001 8) ANSI/HPS N43.2-2001 9) SOW §3.B & C |
| Surveillance | | |
| 42. | Are personnel dosimetry results collectively compiled and reviewed for trends? | <ul style="list-style-type: none"> 1) 10 CFR 20.2102 2) ANSI/HPS N13.6-1999 3) NRC Regulatory Guide 8.34 4) SOW §3.C |
| 43. | Are investigative action levels identified? | |
| Section 2: Records | | |
| 44. | Does the Center Radiation Officer, Radiation Safety Committee, or others review the dosimetry data? | |
| 45. | Does the employee's individual ionizing radiation exposure form include previous and present exposure history? | <ul style="list-style-type: none"> 1) 29 CFR 1910.1096(n)(1) 2) SOW §4.C |
| 46. | Are copies of ionizing radiation exposure records given to workers upon termination? | <ul style="list-style-type: none"> 1) 29 CFR 1910.1096(o)(1) |
| 47. | Is the local fire services organization provided with a periodic updated listing of the Centers facilities that contain radioisotopes and the quantity within each facility? | <ul style="list-style-type: none"> 1) SOW §4.C |
| 48. | Are copies of Center radiation use authorizations maintained on file in the Center radiation safety office? | <ul style="list-style-type: none"> 1) 10 CFR 20.2102 2) ANSI Z136.1 §Appendix D1.5 |

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| 49. | Does the Center radiation safety office maintain records on workplace radiation protection surveys; waste disposal; personnel monitoring, instrument calibration; air sampling; leak testing and accountability of instrument radioactive material calibration sources; NRC/State licenses; other outside program/machine compliance audits; Center Radiation Safety Committee minutes? | <ul style="list-style-type: none"> 1) 10 CFR 20.2102 2) 21 CFR 1000.55 3) ANSI Z136.1 §Appendix D1.5 4) IEEE Std.C95.3-2002 §4.5.8; 4.2.1.2 5) SOW §4.C |
| 50. | For NRC/State radioactive material/x-ray machine licenses are current copies available for: licenses, subsequent amendments, license correspondence, NRC/State license inspections, discrepancy correspondence, and ionizing/non-ionizing accident/incident investigations? | <ul style="list-style-type: none"> 1) 10 CFR 19.11 2) SOW §4.C |
| Emergency Planning | | |
| 51. | Does the Centers emergency planning program include documented hazards, appropriate emergency actions, properly placed emergency response radiation instrumentation, delineated notification lists for Center management and regulatory agencies, emergency power requirements for key instruments? | <ul style="list-style-type: none"> 1) 10 CFR 30.32 (i)(3) 2) ANSI Z136.6 §Appendix A3-5 3) SOW §4.C |

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